

Spring 1993

Volume 1 Number 1

First Issue of *ST1100 Newsletter* Published

Houston, Texas - The inaugural issue of the *ST1100 Newsletter* has been published by WG Norman of Houston, Texas. The goal of the publication is to become a regular source of information related to the Honda ST1100. The newsletter is not published with the intent of excluding non-ST1100 owners, comments from any and all motorcyclists will be welcomed. However, the emphasis of the newsletter will be Honda ST1100 related how-to-articles, problems, and general sport touring concerns. The newsletter will also serve as a forum for discussion of various personal experiences in ST1100 ownership such as insurance rates, anti-theft equipment, mechanical problems and so on.

My personal background includes several years of riding, writing and publishing experience plus over 2 years and 50,000 miles+ on an ST1100. I have taken on this project because I feel there is a need for the ST1100 owners to have a common source of information and a forum for their views and concerns. I intend this publication to be "reader written" and strongly encourage ALL to submit articles for consideration. The address for *ST1100 Newsletter* is:

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I can also be reached via computer and modem at the HSTA BBS. The number for the bulletin board is (408)261-0938. You need a computer and a modem set to 1200 or 2400 bps No Parity, 8 Data, 1 Stop bit to

communicate. You may upload an article for consideration to the board.

My initial mailing of the newsletter is to 100 ST1100 owners around the country. It is my hope that we ST1100 owners can meet at Honda Sport Touring Association's STAR '93 meeting in Helen, Georgia from June 20 - 24. Most of the names on my mailing list I have found through Honda Sport Touring Association, Iron Butt Association, and my own personal contacts.

I envision the newsletter averaging about 6 pages an issue, 4 times per year initially. In order to mail it out I will have to charge, \$10.00 a year for 4 issues. If you've ever bought an air filter for your ST1100 yet (you should have at 8,000 miles) you will feel \$10.00 is very reasonable.

If you want to receive any future issues, you have to send in your subscription fee. If I was wealthy I would do this for free, but since I have a wife, two kids and 3 motorcycles to support - well, you know what its like. If the subscription fee really irks you, I'll make you a deal - send me an article that I can use and I'll give you a one year subscription for free. But then I'll expect more articles!

TUNE IT YOURSELF

by W. Grant Norman

I recently decided to have my valves once again adjusted by one of our local Honda dealers NOT! No, this time I'd do it myself - after all, I had the shop manual, a reasonable amount of intelligence, and figured it couldn't take more than a couple hours.

ST1100 Newsletter

"Newsletter for ST1100 Owners and Sport Touring Enthusiasts"

Actually, "weeks" would have been better than hours.

In the end, it was a highly educational, and quite enjoyable task, and I did enjoy the thrill of pushing the starter button after I was done and wondering if my ST1100 would go super-nova. Alas, it worked. In fact it worked quite well, and it should have since I did the entire operation twice.

First, a brief explanation of why I chose NOT to have a local Honda dealer do the job: I have never felt entirely comfortable with any of the dealers in the Houston area working on my motorcycles. I do believe they attempt to do a decent job, but for some reason, I've never felt they could accomplish it.

When I started to remove the cams on the ST engine, I found the reasons for my long time suspicion. Three of the bolts through the cam holder had stripped their threads in the aluminum head. A fourth bolt was also stripped and was coated with an 1/8" layer of lock tight! My long time suspicions were correct! Gorillas had been under the valve cover: and I'd been whining this motor out to red line and up to speeds of 120 mph!

So much for depending on the dealer. Had I only used one dealer for valve adjustments, believe me, I would have gone down there and immediately demanded new heads for the bike but alas, then I would have had to let THEM install them, and THAT would have been too frightening to think of!

Myself, I am NOT a mechanic. I have done quite a few different minor mechanical tasks on my bikes and cars, but usually nothing more than

change the oil, filters, and plugs. Also, I can do brake pads but my brother had to bail me out when I tried to rebuild the brake cylinders on my Suzuki GS850. But for the most part I can get the job done, and usually better than most of the local Honda "experts."

Some things I learned to do BEFORE tearing down ST and removing the cams:

1. Make certain you have a reliable torque wrench. The cam holder bolts can NOT take over tightening. They must be tightened only to 9 foot pounds on re-assembly.
2. Buy some molybdenum grease for re-assembly of cams.
3. If a previous valve adjuster was a gorilla and stripped the threads on any of your cam holder bolts, use a Size M6 X 1, Part No. 5546-6 Helicoil kit to insert new threads. You will need to make about a half inch long tube from a pen to fit inside the counter sunk hole on the outer cam holder bolt

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holes to guide the coil to where the threads would start.. Also, before drilling or tapping new holes, measure the hole depth with a screw driver and put tape around your drill bit and/or tap to prevent going to deep.

4. Locate various size shims at a Honda dealer - I found a dealer up near

Dallas had every single size in stock, while the ones in Houston only had a few of the different sizes. The manual says the shims are available in 65 different sizes from 120-280 (1.2mm - 2.8mm). I found the range I needed was from 195-210. They sold from a range of \$4.25 - \$6.25 each. I found one dealer that would trade me shims when I asked the service manager.

5. The calculations for figuring the new shim thicknesses are relatively simple, but since it involves 16 different valves and shims, I didn't trust myself to calculate properly each time. Therefore, I wrote a simple computer program to calculate the proper thickness for me. (Send \$2.00 & a 3.5 high density disk to WG NORMAN, P.O. Box 840566 Houston, Texas 77284-0566 and I'll send it to you ready to run)

6. Make yourself a chart BEFORE you remove the cams, lifters, and shims. Then you can place the proper parts on the chart for easy re-assembly. When you are through with the adjustment, COPY DOWN THE SHIM SIZES INSTALLED IN EACH VALVE - THEN, NEXT TIME YOU ADJUST THEM, YOU CAN BUY ALL THE SHIMS YOU NEED BEFORE TAKING OFF THE CAM AND LOOKING AT THE SHIM SIZE STAMPED ON THE SHIM.

7. The ST1100 Honda service

manual is pretty accurate and gives good step by step instructions for this procedure, HOWEVER, it does not show you that the two bolts on the inner side of the longer cam holders are about 1/2 inch shorter than the other bolts. This is where some mechanic had stripped the threads of my cylinder head by putting these bolts in the outer 2 holes of the longer cam holders. The small end cam holders have the longer bolts in both the inner and the outer holes.

mine does

When you do your valve measurements, make sure you have a good feeler gauge and that the engine is cold. I feel it needs to sit at least 3 - 4 hours, if not over night. Remove the spark plugs to make the engine easy to turn by hand.

Sighting up accurately on the timing marks (located under a cover under the radiator) is not real easy. You have to try and get your head down at an angle where the front tire is. I found it better to use those T1 and T4 marks for a good approximation, but used a long screwdriver in the spark plug hole and get a mechanical top-dead-center by watching the screwdriver come to its highest point then stop. After which, I would check the cam index lines, located on the center of the gear end of the cams to check their alignment with the edge of the head case. Also, I ONLY REMOVED ONE CAM AT A TIME. Even though the cams are well marked, this was a precaution I took that made it easy to reassemble.

Lastly, MAKE SURE YOU USE A TORQUE WRENCH TO TIGHTEN THE CAM HOLDER BOLTS! I can not stress

this enough because I spent at least 4 hours tracking down tools and repairing stripped threads. If the mechanics had been a little more careful on this procedure, it would have saved me a lot of time.

Observations: Measure, and measure again. I measured all clearances once, wrote them down, then measured them again, wrote them down on a separate piece of paper, then compared the two measurements. Where they were different, I measured a third, sometimes a fourth time. (I found that the intake valve measurements were always easy, but the exhaust valves, the pressure of the gauge could actually push down the lifter some, giving a false reading if using too thick of a gauge)

It is easy (at least it was for me) to sometimes get the exhaust valves and the intake valves measurement mixed up. They have different valve lash specifications so make certain you are on the right valve. The first reading I took on cylinder #1 I put down as okay - only later to find out that yes, the exhaust valves were in spec for intake valve specifications and vice versa.

If you have to repair the threads from a gorilla (even if you were the gorilla - yes, I was on one bolt) use a rag stuffed around the hole to catch any aluminum shavings that might want to get in the engine. Also, I have a little shop vac with a crevice tool and I stopped and vacuumed the hole frequently as I drilled and ran the vacuum continuously on the hole while backing out the tap. No aluminum scrap

in the motor!

I hope you find this information useful. Much of it is true for any valve adjustment. I do hope that any of you real super mechanical types that read this will immediately comment if there is anything I've said in error, after all, I am not a mechanic, just a concerned motorcyclist that wanted to make sure my ST1100 was tuned properly.

I Wish

By Reuben C. White

Over the years I have owned many motorcycles; among them Indian, Triumph, Ariel, Velocette, Kawasaki, Yamaha and Honda. Each had it's own personality, and yes, flaws. Most did a certain job well, but lacked in other areas. Until, of course, I purchased my present mount, a Honda ST1100. No motorcycle is perfect, however the ST is as near perfect as I have ever owned and it does many things well. Nevertheless there are some imperfections and shortcomings.

I wish the ST came with a taller windscreen, optional higher handlebars, better horns, ammeter or voltmeter, braided stainless steel brake and clutch lines, right angle steel valve stems, an auxiliary plug in the fairing to connect your electric vest, and a quality custom seat. By investing considerable time and money I have made all the above wishes come true.

I wish the ST came with an accurate fuel gauge, a digital gear indicator, automatic shut-off turn signals, and a wider fairing to give some hand protection. I wish the ST came in a down-sized model so that those of small stature would not be intimidated by it's height and weight. It is not likely that anyone except Honda could grant these wishes, but it would be nice.

I wish most of all that all ST owners enjoy their machines and that fate watches over them and returns them home safely after each ride. Matter of fact, I wish the same to all motorcyclists everywhere.

ST1100 Headlamp Halogen Bulb Replacement

By W. Grant Norman

Replacing Stock 45/45 Halogen Bulbs with Standard H4 Halogens

The standard halogen bulb for the Honda ST1100 is a 45w/45w that can be purchased from Honda for only \$32.00 or so, depending on the dealer. Since it is probably a good idea to replace both at the same time, then for \$64.00 plus tax and the usual installation hassle you can have new bulbs.

When I called and asked the price on a 60w/55w H4 Halogen bulb, they were \$6.95 each. It didn't take much math background to figure out which bulbs to use, however, of course some engineer in his/her wisdom decided the tabs on the stock 45/45 bulb for the ST1100 should be just slightly different so the headlamp housing wouldn't accommodate the less expensive, more powerful replacement bulbs.

First off, before we get too far into discussing the bulb substitution, let me explain why I found the ST1100 is more than capable of handling the extra wattage of the 60w/55w H4 halogen. Not to mention the lengthy computations made by several engineers on the HSTA BBS calculating how much more amperage would be required to power the bulb, based on the estimated wire gauge size, they all concluded it should be safe. I confirmed that when I partially removed the headlamp housing. Stamped right on the back of the housing is:

Stanley 60/55w (EUROPE) 45/45w USA!

So all along, the ST1100 had been designed to accommodate the higher wattage 60/55w bulb, unless they make other changes to the European model's

electrical system, which seems from a manufacturing point of view a very expensive task. In any case, the general consensus of many who have discussed this issue is that the extra wattage from switching to a 60/55w should not effect the ST1100. If it does, this is my disclaimer - I'm not telling you to switch to a higher wattage, I'm just telling you how I did it!

To make the new bulbs fit, I intended to remove the headlamp housing and cut new notches into the bulb retaining ring, which for some reason I had assumed would be made of metal. Wrong, it is part of a plastic molded component of the back side of the housing. Next, I noticed that not only would I have to make several small cuts in the plastic to make the bulb fit, I would also have to cut a "locking tab" on the inside edge of the retaining area where the stock bulb locks into position. Again, it didn't take long for me to decide on the only alternate choice, modify the bulbs, not the retaining ring area. Using a pair dikes, I simply cut off the two tabs, one at about 7:30 o'clock, the other at about 4:30 o'clock. Next, I cut off the two additional tiny locking tabs at 6:00 o'clock. The bulb seated perfectly in the bulb retaining ring, however, without the two tabs on the side and the locking tabs, I found the bulb did have play in the socket to the right and left. I figured that might happen, but I also thought the pressure of the retaining spring would resolve it...and sure enough, as soon as I clipped on the retaining spring, the right/left play was almost completely gone. Then, as I had hoped, the rubber boot that goes over each bulb further steadied it so that the bulbs looked perfectly straight in the housing.

The procedure I followed is as follows:

- 1.) Remove the windscreen - 5 phillips screws
- 2.) Remove the top instrument cover panel -

Black with "Honda" logo on it. 2 - phillips screws - Note: there is also a trim clip under the "Honda" logo, on my bike I didn't remove this because the original had fallen off and I had glued in a "dummy" - You may need to remove the trim clip also.

3.) Remove the next instrument cover panel - 4 - phillip screws - Also remove the two screws, one on each side, at the top of the instrument cover panel near behind where the windscreenscrews with the triangular holding plates mount.

4.) Remove 2 10mm Bolts from fairing cover exposed from removing instrument cover.

5.) Remove 1 10mm Bolt that holds two pieces of upper fairing together.

6.) On the underside of the head lamp housing, reach from underneath and remove 2 phillips screws from center panel on underside fairing cover.

7.) Remove 4 phillips screws and release two trim clip buttons, one on each fork side, right and left, then release underside fairing cover. NOTE: The speedo cable runs through this piece, but you do not need to disconnect the cable, just twist the piece over the front fender and let it hang out of the way on the cable side.

8.) Back up top, there are two hex screws with bolts that hold the top edge of the head lamp housing. Remove them with hex driver and 10mm wrench.

9.) Reach up from underside and there are two 10mm bolts holding the bottom edge of the head lamp housing. Remove them with 10 mm socket wrench with short extension.

10.) Pop off mirror/turn signal housings on both right and left sides. NOTE: Remove mirrors - 2 10mm bolts each.

The mirrors actually hold on the upper right and left fairings and **MUST BE REMOVED** to give the fairing enough flexibility to bend so you can slide out the head lamp assembly.

11.) After the mirrors and all other necessary bolts and screws have been removed, the head lamp housing should be loose. Remove the two connectors from the each of the bulbs.

12.) Get two or three thick folded bathroom size towels and stack them folded on the top of the front fender. This is where the housing will rest after it is removed - NOTE: There is no reason to remove ANY of the head lamp adjusting cable screws, linkage, etc. Leave it all alone, or figure out on your own how to put it back together!

13.) After everything is loosened and the towels are in place, carefully pull the head lamp housing forward through the loosened upper fairing pieces, pulling it free from its two guide posts on the metal frame bracket. Twist the assembly to the right and down to allow the adjusting cable to slip through the fairing pieces and rest it on the towels. You now have easy access to both bulbs.

14.) Remove rubber dust boots from each bulb, then release retaining spring to remove the bulbs. CAUTION: If one of your bulbs is still good, remember, **DO NOT HANDLE THE GLASS PART OF BULB WITH YOUR FINGERS - IT WILL CAUSE IT TO DETERIORATE**

15.) If you are not putting in stock bulbs, you will now need to modify each of your new bulbs by cutting off the 4:30 and 7:30 o'clock tabs and cutting off or bending back down the locking tabs at 6:00 o'clock as discussed above.

16.) Insert bulb into retaining ring of head lamp housing and it should fit perfectly, however, it will rock right to left if you try. Center it and put it into place with the retaining spring. Most of the rocking should be gone now – then replace the dust boots on each bulb and the head lamp housing is ready for re-assembly into the fairing.

17.) Line up the head lamp housing with the guide pegs on the frame bracket and it slides right in. Re-assemble in the reverse order the remaining components. NOTE: If you didn't mark the screws, the four short ones came from the under side fairing cover, the piece that has the speedo cable running through it!

Make sure you push back in the two trim clip buttons when you re-assemble the underside fairing cover.

I did this whole operation in about 2 hours, but I stopped to clean everything as I re-assembled. It could easily be done in an hour to an hour and a half if someone wanted to get it done quickly.

Letters

TO: Mr. Grant Norman, c/o **Rider Magazine**,
Re: **ST1100 Wobble**, **Rider Magazine "Shop Talk"**, March 1993 issue.

I enjoyed your article "**ST1100 Wobble**" in the March '93 issue of **Rider Magazine** and can sympathize with your obvious frustrations, disappointments and efforts as I to am an ST1100 owner with the same problem(s). I have just over 20,000 miles on my machine, of which 13,000 were pit on last summer. The original tires were Dunlop 505's with which I did not experience any problems. At 10,500 miles, I put on the recommended Metzeler Laser and Metronic tires per the ST's owners manual. After a month or so, I began noticing the wobble or "tank slapping" if I eased off my bars while decelerating between 45-40 mph. Also, as these new Metzellers got worn in, I detected

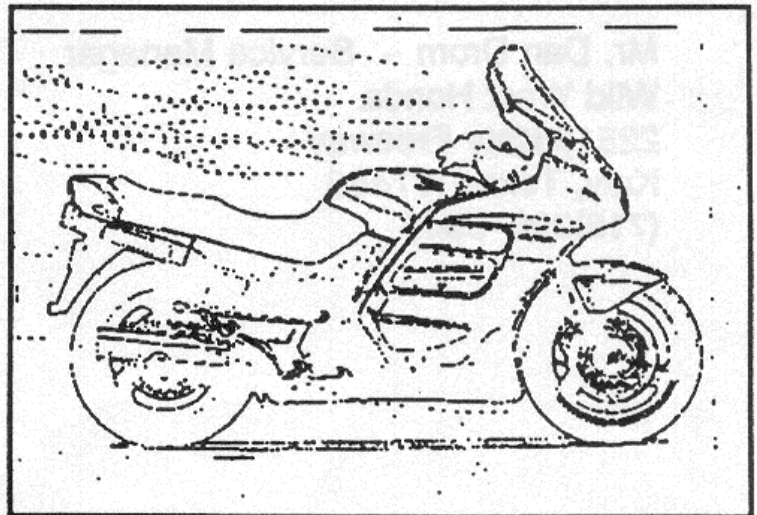
a slight wobble while cornering which has progressed with tire wear. I've played many of the same tire pressure and load balancing games as you and also found that riding maximum pressure all but eliminated the wobble. Most of my riding is solo with light load, but I'm conscious of proper load balancing on extended trips. I also installed a Givi Monokey top case which mounts through the existing holes for the passenger grab rails, but have not noticed any adverse handling as such.

My ST will be going into the shop later this month or early April for new tires and routine maintenance. I plan to show the mechanics a copy of your article to see what they think. I'm wondering, have you had any luck finding a solution? Cheers,

Wendell S. Palmer

*Wendell – I wish I could say I have found and answer to the front wheel wobble problem on the ST, but thus far, **Rider Magazine's** response is about the only "fix" I've found. I've also had suggestions of stiffer Progressive fork springs and a fork brace, although I haven't heard how effective either of these may be. – Grant*

Backfiring ST1100? See the February 1993 issue of **Road Rider's Motorcycle Consumer News "Downtime Files"** for their excellent response to my inquiry.



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Redmond, Washington 98052-3739
Elbert E. Silbaugh, Membership
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(206)882-0224

American Sport Touring Rider's
Association (ASTRA)
PO Box 672051
Marietta, Georgia 30067-0035
Jeff Adams, President
(404)443-2614

Sport Touring Riders Club of Colorado
(STRCC)
2006 Capulin Drive
Colorado Springs, Colorado 80910
B.J. Ondo, Director
(719)635-3719

Recommended Honda Service

Mr. Dan Drom - Service Manager
Wild West Honda
22515 Katy Freeway
Katy, Texas 77450
(713)392-8940

Plano Honda
202 W. Parker Road
Plano, Texas 75075
(214)422-4703 Parts - Mickey Hunt

Cycle Sports, LTD.
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